



## **HIGH SPEED CANS – THIRSTY WORK..**

***2.2 BILLION drinks cans and 5 billion ring-pull end caps  
per year quench a lot of thirst at Crown Bevcan, Carlisle!!***

An excellent presentation and tour round the Crown Bevcan facility at Carlisle left the IMechE West Cumbria party in need of a drink. The recent visit demonstrated the highly impressive production technology used in forming almost the unbelievable quantities of cans and ends, but unfortunately the cans are filled elsewhere.

Led by Lee Foster, Training & Safety Manager and Andrew Binnie, HR Manager, the visit opened with a fascinating video presentation that explained the stages in taking in coiled aluminium or steel sheet and deep-drawing it into the familiar drinks can shape. The additional techniques required to form the highly complex yet dazzlingly simple ring pull end cap were also shown.

Cans are made in a range of sizes from 25 to 50 cl using 2 processes– the basic shape forming and then the increasingly intricate printing and final forming, to leave the highly marketable familiar shapes and colours that fill our supermarkets and off-licences.

For this visit, the aluminium can production was highlighted. Starting with a coil 1.5 metre wide by 7km long (enough to make 700,000 cans), a shallow cup is stamped out and moved to the body-forming press. This is where the clever stuff comes in, to persuade the metal to seriously change its shape and form, culminating in the inverse bell-end form. It's all a matter of careful lubrication and speed, plus plenty of coolant. As a food-carrying container, cleanliness is vital, and several sterilising and washing processes are used after this stage.

The cans are then passed on to be printed with the increasingly vivid corporate markings that distinguish the many brands. The paintwork is dried and cured and the can is also sprayed internally to provide a barrier between contents and metal.

After final cleaning, a Vision system is used to detect any flaws or inconsistencies before the cans are automatically palletised for despatch (via Eddie Stobart!) to the particular brewery or drinks maker.

The ring-pull endcap is superb piece of detail engineering, from the way in which the handle is formed to the impression of the tear zone, which has to be precise to incredible limits – too thick and it won't tear when required, too thin and it could burst when pressurised by the contents. The production process also includes laying in a rubberised seal to ensure the final assembly of can and end cap is tight and securely sealed.

The presentation was good, but it did not prepare the party for the noise and speed of the production floor. From entering the area, you are immediately aware that this facility is involved in a food process – the cleanliness was (and needs to be) immaculate. But the noise

and speed of operation was absolutely mesmerising. Excellent hearing protection is crucial at all times throughout the factory, and communication without speaking is vital to save your voice.

Buffer stock areas allow for line imbalances and also planned (and unplanned) maintenance, but the speed at which metal is hurled through the whole process was staggering. The cans are automatically checked at numerous stages - the lines move way too quickly for any human intervention: 1,200 cans a MINUTE are being printed!

Additional developments at Bevcan are increasing the marketability of the humble can by adding a 'shape' process to produce a fully contoured can that can be exploited by the sales departments of the many drinks companies.

This is a wonderful world-class facility right here in Cumbria, and we shall never take our can of beer for granted again! Many thanks to Lee & Andrew for their patient explanation and courtesy – another fascinating visit from IMechE West Cumbria.

**ENDS**



**IMechE West Cumbria Chairman Chris George (L) thanks Andrew Binnie and Lee Foster of Crown Bevcan for an excellent visit.**

### **Notes to Editors**

- The Institution of Mechanical Engineers ([www.imeche.org.uk](http://www.imeche.org.uk)) is the leading global voice for the profession and has over 75,000 members in 120 nations. It represents mechanical engineers involved in a diversity of fields such as the automotive, rail, aerospace, medical, power and construction industries, to name a few.
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